

**ION IMPLANTER SYSTEM, METHOD AND PROGRAM PRODUCT  
INCLUDING PARTICLE DETECTION**

**ABSTRACT OF THE DISCLOSURE**

An ion implanter system, method and program product for detecting at least one particle level in an ion beam and controlling the ion beam based on the at least one particle level during any stage of operation including ion implantation. A bright-field laser particle detector is employed that transmits and receives the laser beam directly through at least a portion of the ion beam to obtain an accurate particle level. The invention allows for observance of ion beam-borne particles and correction of the ion beam by a system controller in real-time to minimize particle level(s). During ion implantation, processing may be stopped until particle level(s) are below a preset value. The invention allows particle level detection during implantation such that post implant steps to check wafer particle levels are unnecessary.